

REMARKS

Claim 1 is amended herein. Support for the Amendment is found for example, at page 16, lines 20 to 23, of the present specification. No new matter is presented.

In Paragraph 3 at pages 2-3 of the Office Action, Claims 1 and 3 were rejected under 35 U.S.C. §102(b) as being anticipated by Iijima et al (USPN 4,226, 915) or Rosenski et al (USPN 5,319,020), for reasons cited in the previous Office Action.

As claimed in amended claim 1, the adhesive composition consists essentially of a polyalkylene glycol having a weight-average molecular weight of from 100,000 to 3,000,000 in a specific amount of an acrylic polymer. Furthermore, the polyalkylene glycol is incorporated into the composition in the form of an aqueous solution after the polymerization of the acrylic polymer.

The transitional language "consisting essentially of" excludes those ingredients which are shown to materially affect the basic and novel characteristics of the invention. Namely, the present invention provides a pressure-sensitive adhesive simultaneously satisfying initial adhesion to dewy surfaces and a constant-load peeling property (i.e., a basic and novel characteristic of the invention).

Neither Iijima nor Rosenski disclose the invention of Claim 1 as amended.

As shown in the Declaration submitted herewith, the presence of a water-soluble polyol having a molecular weight of 1000 or less and which is an essential component in the formulation of Iijima deteriorates its wet surface adhesive force. Thus, amended claim 1 which is directed to an adhesive composition consisting essentially of a polyalkylene glycol having a

weight-average molecular weight of from 100,000 to 3,000,000 in a specific amount of an acrylic polymer excludes the adhesive composition of Iijima containing a low-molecular weight polyethylene glycol and polypropylene glycol, for example, as essential components.

In more detail, Applicants reproduced Example 1 of Iijima (Replication Experiment ①), containing polyvinyl alcohol as the water-soluble or water-swellable polymer and glycerin as the low molecular weight polyol. Applicants also conducted comparative experiments by replacing the polyvinyl alcohol with a polyalkylene glycol. As being representative of the polyalkylene glycol of the invention, polyethylene glycol (Alkox E-30 manufactured by Meisei Kagaku Ind. co., Molecular weight of 300,000 to 500,000) was selected and it was added in an amount of 1.54 part by weight based on 77 parts by weight of the polymers (corresponding to 2 parts by weight based on 100 parts by weight of the polymers). Using this formulation, Applicants conducted a replication experiment in which glycerin was added in an amount of 15 parts by weight (Replication Experiment ②), and conducted a replication experiment in which no glycerin was added (Replication Experiment ③). The results are shown in the attached Declaration.

In summary, Replication Experiment ① shows that the formulation of Iijima (containing polyvinyl alcohol as the water-soluble or water-swellable polymer and glycerin as a low molecular weight polyol) provides poor wet surface adhesive force. The same poor results were also obtained in Replication Experiment ②, where the polyvinyl alcohol was replaced with a polyalkylene glycol of the invention. Namely, as shown by Replication Experiment ②, the presence of the glycerin interferes with the composition's wet surface adhesive force, namely a

basic and novel characteristic of the invention. Replication Experiment ③ confirms that only once the glycerin (i.e., low molecular weight component) is removed does the formulation provide the desired wet surface adhesive force. These results are tabulated in Table 1 of page 9 of the Declaration submitted herewith.

The present invention also differs from Iijima's invention in that, in the present invention, a specific polyalkylene glycol alone can be incorporated into a specific acrylic water dispersion type pressure-sensitive adhesive to provide the effects of the invention.

Iijima describes that "when a water-soluble or water-swellable polymer alone is incorporated in an adhesive, a small moisture permeability can be imparted to the adhesive layer, but even if such a polymer is incorporated in a large quantity, an adhesive layer having a good moisture permeability cannot be obtained" (see column 2, lines 55 to 61). This passage instructs that Iijima's "polyethylene oxide with a molecular weight of 300,000 or more" or the like, which corresponds to Iijima's water-soluble or water-swellable polymer, is never used alone.

More specifically, Iijima discloses that the water-soluble polyol disclosed therein contains polyethylene glycol having a molecular weight of 1,000 or less and polypropylene glycol with a molecular weight of 1,000 or less (see column 3, lines 42 to 51). In addition, Iijima discloses that the water-soluble or water-swellable polymer contains polyethylene oxide with a molecular weight of 300,000 or more (see column 3, lines 57 to 63). Surely, Iijima's polyethylene glycol and polypropylene glycol are outside the molecular weight range of present claim 1, i.e., from 100,000 to 3,000,000.

Regarding the difference between Iijima's polyalkylene oxide and Applicants' claimed polyalkylene glycol, Applicants comment as follows. Generally, polyalkylene oxide (polymerization of ethylene oxide) is designated as having a molecular weight larger than that of polyalkylene glycol (polymerization of ethylene glycol). Thus, Iijima's polyethylene oxide having a molecular weight exceeding 300,000 with no specified upper limit as set forth at column 3, lines 62-63, is not necessarily the same as the claimed polyalkylene glycol having a molecular weight of from 100,000 to 3,000,000. That is, the molecular weight of Iijima's polyethylene oxide could well be in excess of 3,000,000.

Further, although Iijima discloses that the polyethylene oxide has a molecular weight of 300,000 or more, no basis for this molecular weight range is set forth, and no such polyethylene oxide is used in the examples, either. Thus, Iijima provides no disclosure as to the advantage of that range, which notably is an open-ended range.

Moreover, Iijima relates to a pressure-sensitive adhesive which is moisture permeable, with which skin eruptions or irritation is scarcely caused. Iijima has an object as well as a design concept different from those of the pressure-sensitive adhesive of the present invention which simultaneously satisfies initial adhesion to already dewy surfaces and constant-load peeling property from the beginning.

A distinct difference between the present invention and Iijima et al is that Iijima et al essentially requires the addition of a low molecular weight water-soluble polymer. The test results presented in the Declaration show that the presence of the low molecular weight water soluble-polymer of Iijima adversely affects the basic and novel characteristics of the present invention, such that the amendment to claim 1 employing the transitional language "consisting

"essentially of" excludes the adhesive composition of Iijima et al.

Accordingly, Applicants submit that Iijima fails to anticipate or render obvious the present invention.

The present invention is also distinguishable from Rosenski et al. Claim 1 of the present invention recites that the polyalkylene glycol is incorporated into the composition in the form of an aqueous solution after the polymerization of the acrylic polymer, whereas in Rosenski et al addition occurs during polymerization.

Rosenski is characterized by emulsion-polymerizing monomers in the presence of a polyalkylene oxide plasticizer, while in the present invention, polyalkylene glycol is incorporated into the composition after polymerization.

More specifically, in Example 4 (column 8), Rosenski describes that "in the case where PEG with a molecular weight of 8,000 is added to an emulsion after polymerization, adhesive property is not imparted by the post addition of PEG". That is, Rosenski teaches away from the present invention in that addition of a polyalkylene oxide after polymerization in Example 4 of Rosenski sets forth an embodiment in which the desired effect is not achieved.

In contrast, according to the present invention, the polyalkylene glycol is incorporated in the form of an aqueous solution after the polymerization of an acrylic polymer, in order not to adversely affect the polymerization of an acrylic polymer. Namely, incorporation of the polyalkylene glycol in the form of an aqueous solution after polymerization of the acrylic polymer is a significant key factor for exhibiting the effect of the present invention. Concerning this aspect, the technique of the present invention and that of Rosenski are entirely different from one another. This difference in mode of addition affects the polarization reactivity, thus

resulting in a failure to exhibit good initial adhesive force to a dewy surface as shown in the attached Declaration.

Still further, Rosenski relates to "a pressure-sensitive adhesive which is used for paper products, and can be dispersed again in water when the paper product is recycled to give regenerated pulp". Thus, Rosenski's objective as well as design concept is different from those of the present invention which provides a pressure-sensitive adhesive simultaneously satisfying initial adhesion to dewy surfaces and a constant-load peeling property.

Accordingly, Rosenski et al provides a different formulation for a purpose completely different from that of the present invention and neither anticipates nor renders obvious the presently claimed invention.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the foregoing rejections.

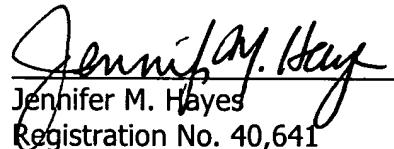
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment under 37 C.F.R. § 1.114(c)
U.S. App. Ser. No. 10/616,916

Q76524

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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